

West Virginia Chemical Spill

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Western Response Branch – EPA Region III



Charleston, WV Chemical Spill:

- * Timeline
- * Agencies Involved
- * Freedom Industries Site Specific Actions
- * Crude MCHM – What was known?



1996

© 2013 Google

Google earth

Imagery Date: 3/26/2012 38°21'29.94" N 81°37'41.40" W elev 578 ft eye alt 15605 ft

Freedom_0005967_0003

Timeline of Initial Events:

January 9, 2014 – WVDEP receives odor complaints, leak was discovered at the facility and West Virginia American Water Company was notified.

WVDHSEM was on scene. EPA Region III Subarea OSC for Huntington/Central WV receives a call.

Late afternoon (3:45pm) anonymous resident called the national response center (NRC) reporting a strong chemical smell in the air.

Do not use order was issued for WVAWC customers.

Governor Tomblin issued a state of emergency proclamation for the 9 counties impacted. (9:32pm)

January 10, 2014 – Emergency Declaration (EM-3366) approved by president. (12:48am)

US EPA and USCG arrived at the facility to meet WVDEP. WVDEP issued two unilateral orders to Freedom Industries.

WV National Guard starts assisting WVAWC with water sampling.

January 11, 2014 – Update from FEMA on water already delivered and additional on the way.

- 894,504 liters (51 TL) with 100,000 meals already delivered.
- WV requested - 2,793,500 liters (151 TL)
- WV had 12 Places of distribution and WV National Guard had 2

WV Chemical Spill (EM-3366) Drive Times to Points of Distribution

This map depicts the time it will take a survivor to travel from his/her residence to a state supported POD.

Drive Times

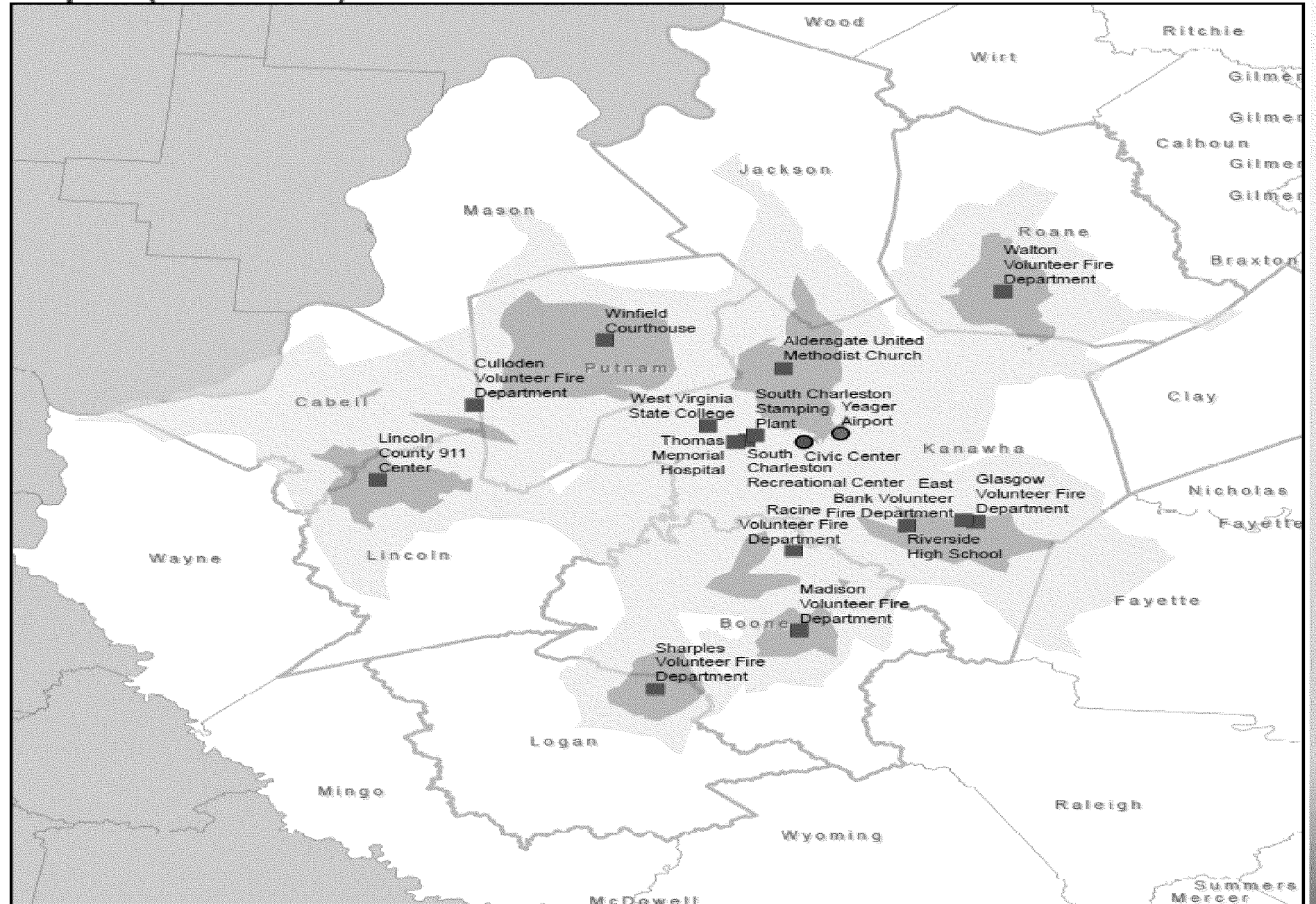
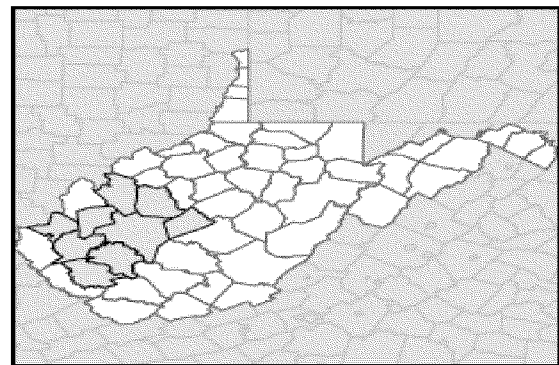
- 30 Minutes Drive From POD
- 15 Minutes Drive From POD

POD Locations

Points of Distribution Type & Status

- NATIONAL GUARD, CLOSED
- NATIONAL GUARD, OPEN
- STATE/LOCAL, CLOSED
- STATE/LOCAL, OPEN
- Designated Counties

Incident: Chemical Spill and Water Shortage






FEMA

Kanawha Valley Water Safety Status Map



January 13, 2014

- | | |
|-------------------------------------------------------------------------------------|--------------------|
|  | <all other values> |
|  | Do Not Use Water |
|  | Water is Safe |

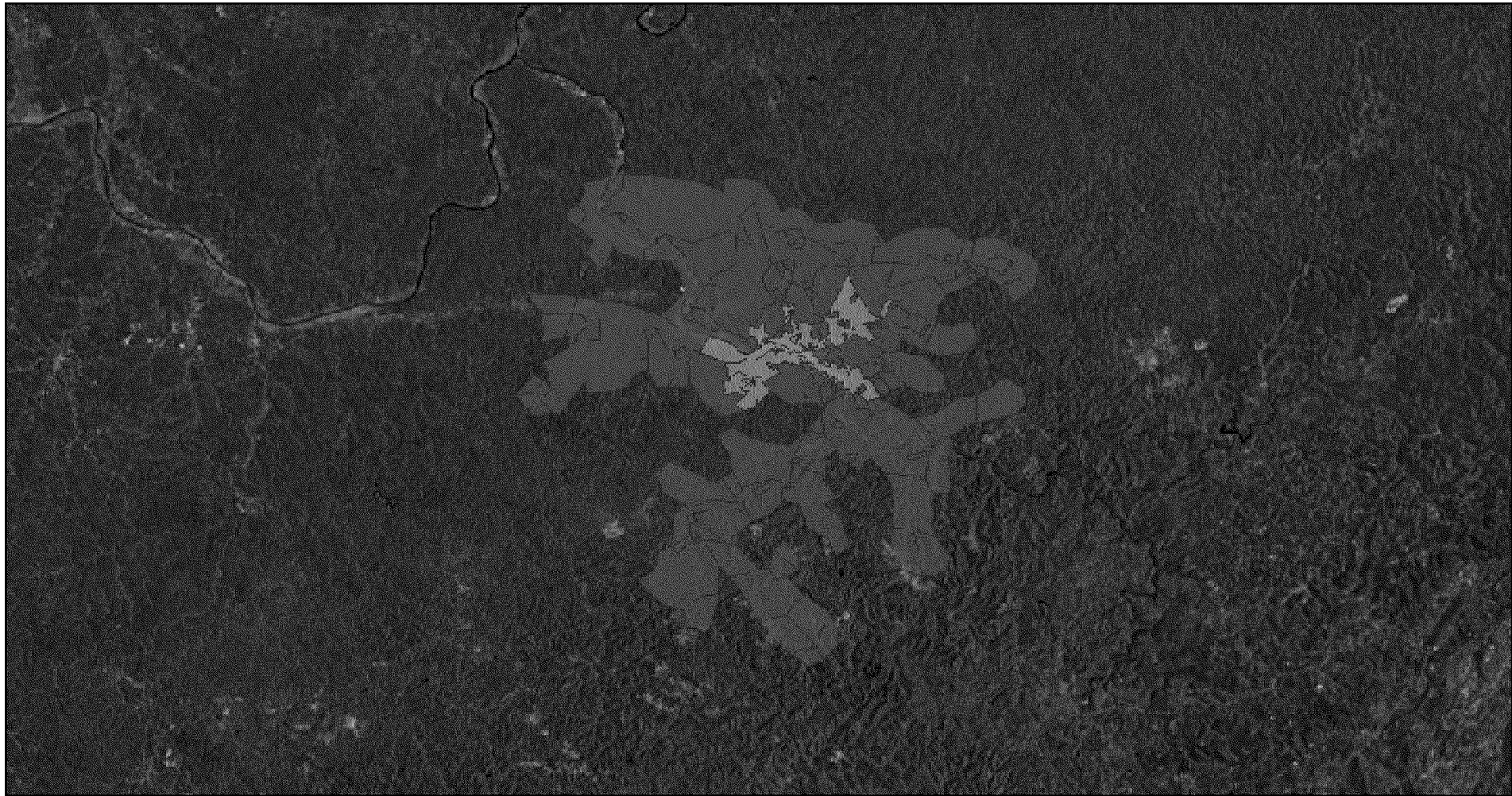
1:45:55.581



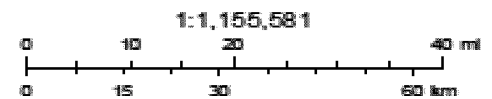
Sources: Eui, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

Abstract

Kanawha Valley Water Safety Status Map



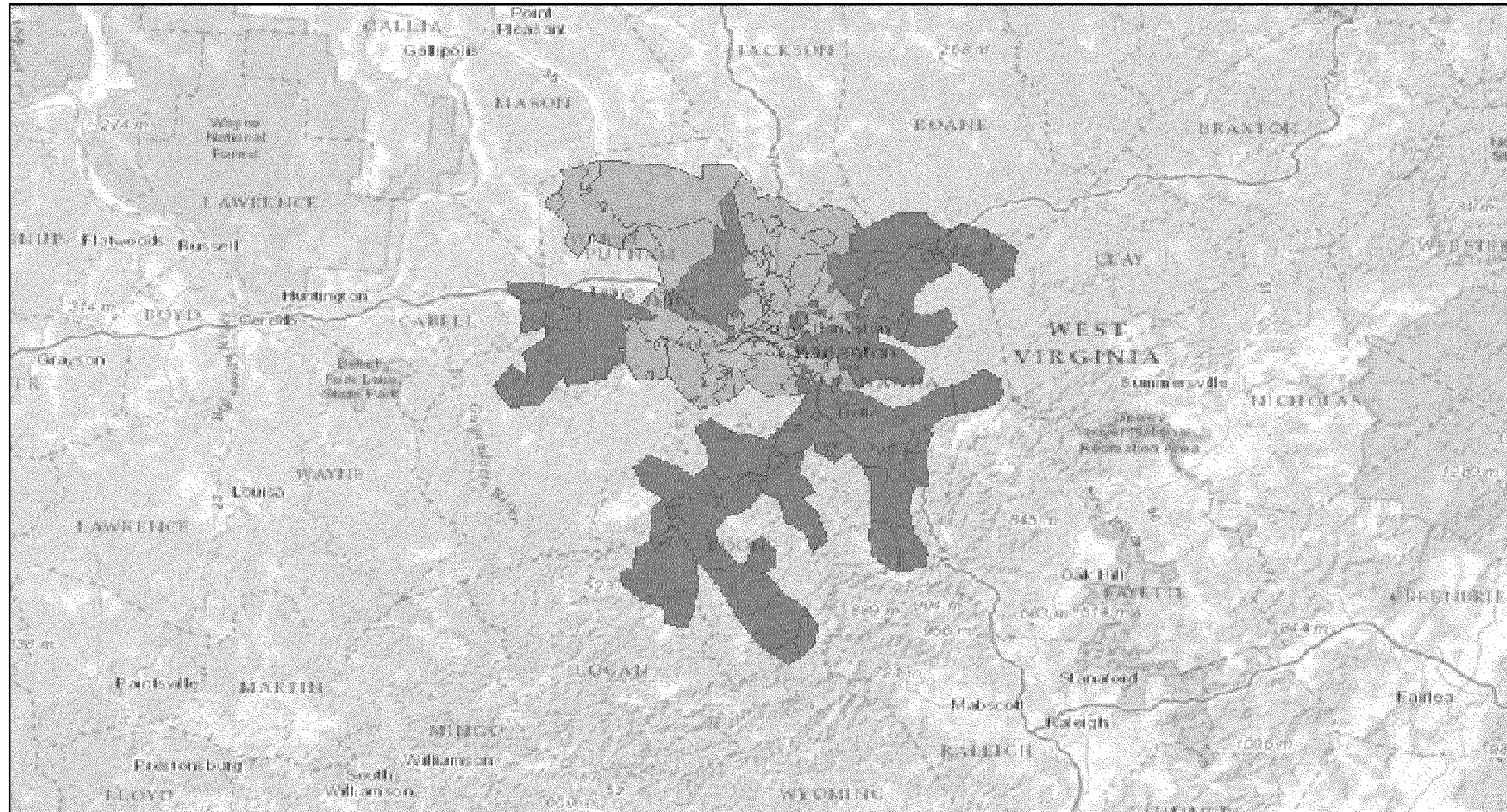
January 14, 2014



Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

AM/Video

Kanawha Valley Water Safety Status Map



January 15, 2014

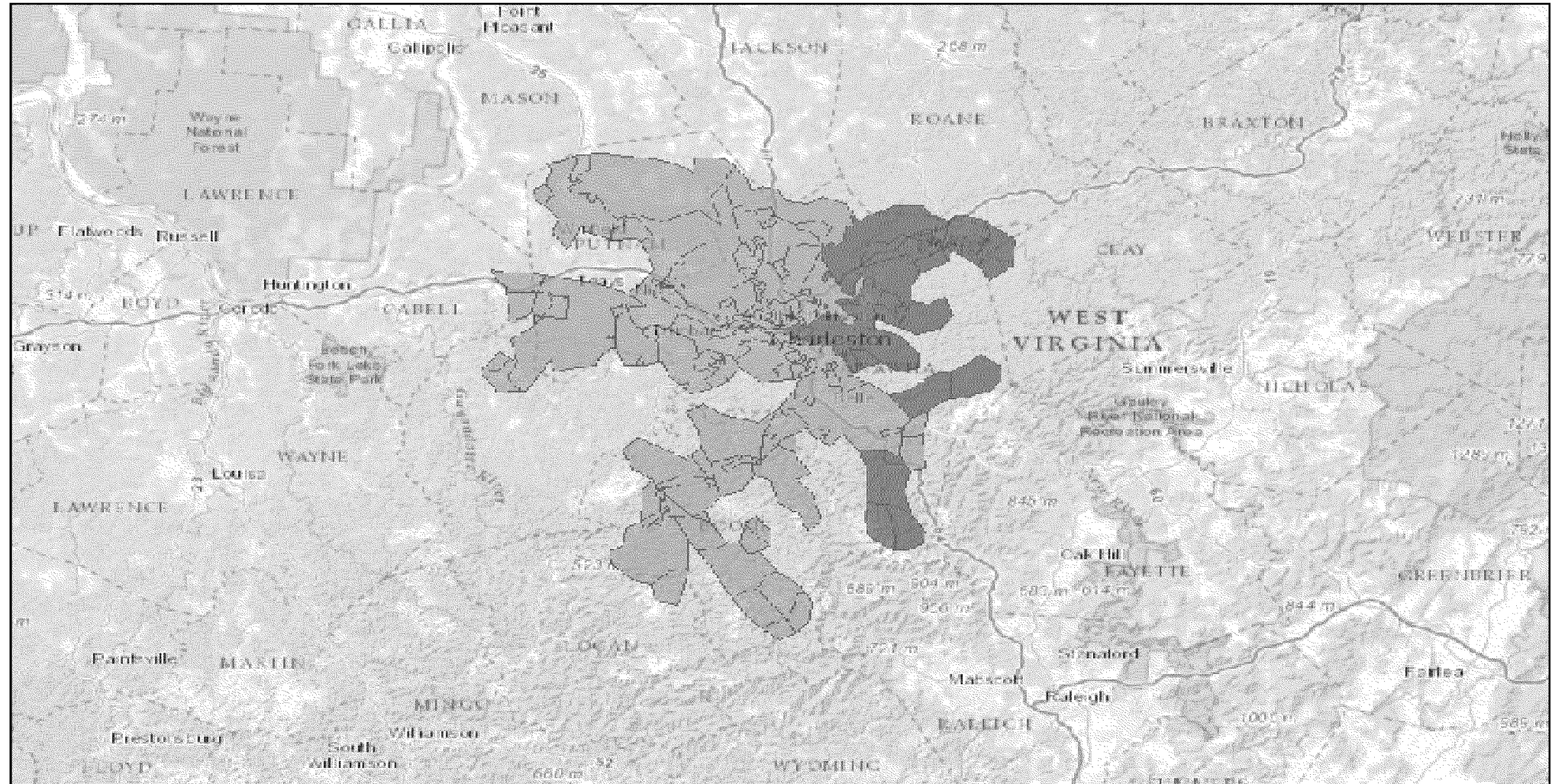
1:1,155,581



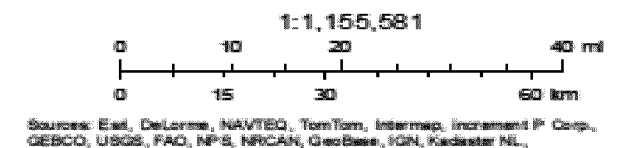
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL,

AM/Water

Kanawha Valley Water Safety Status Map

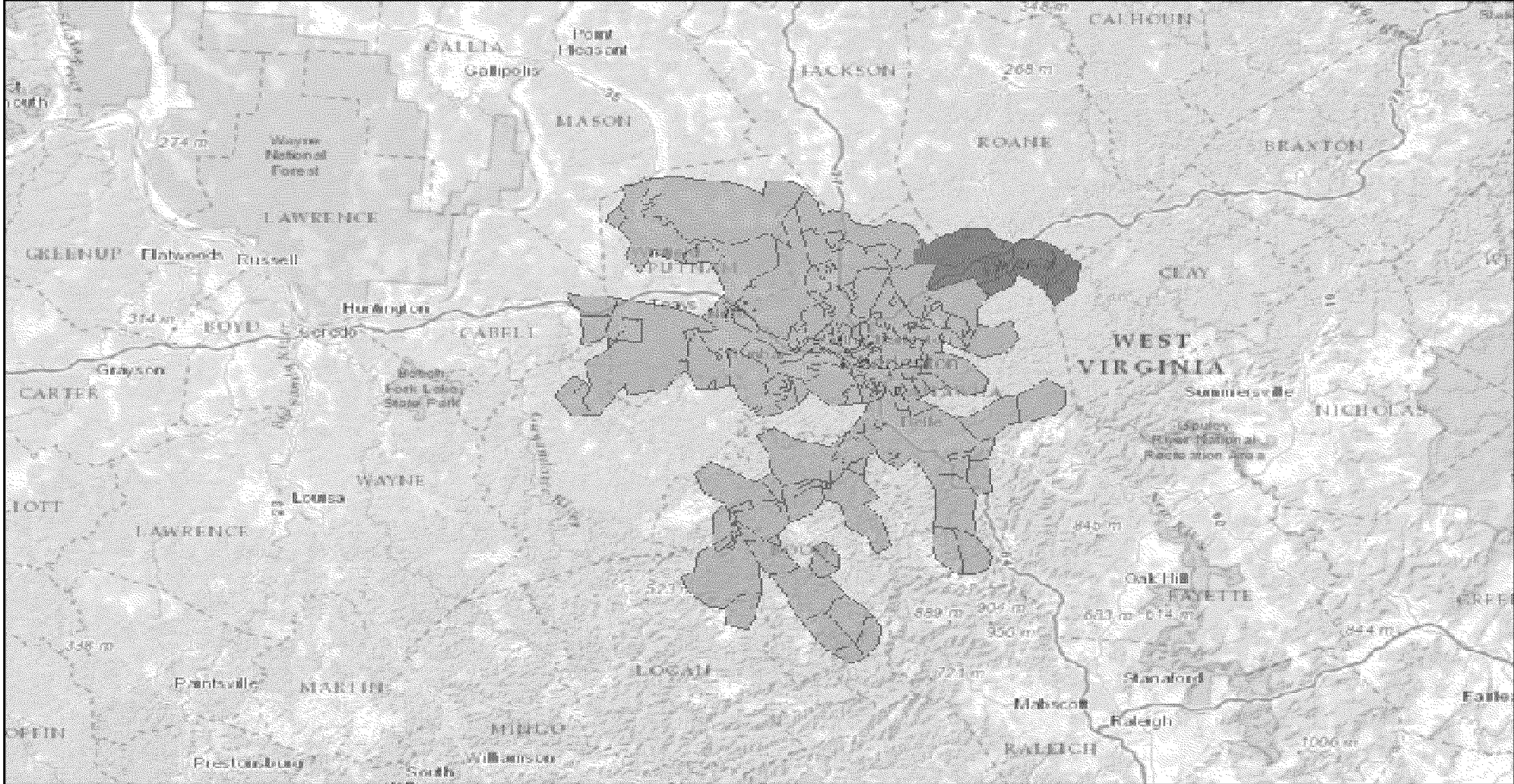


January 16, 2014

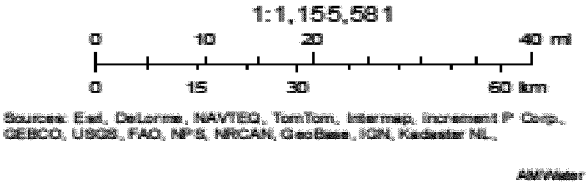


AMWater

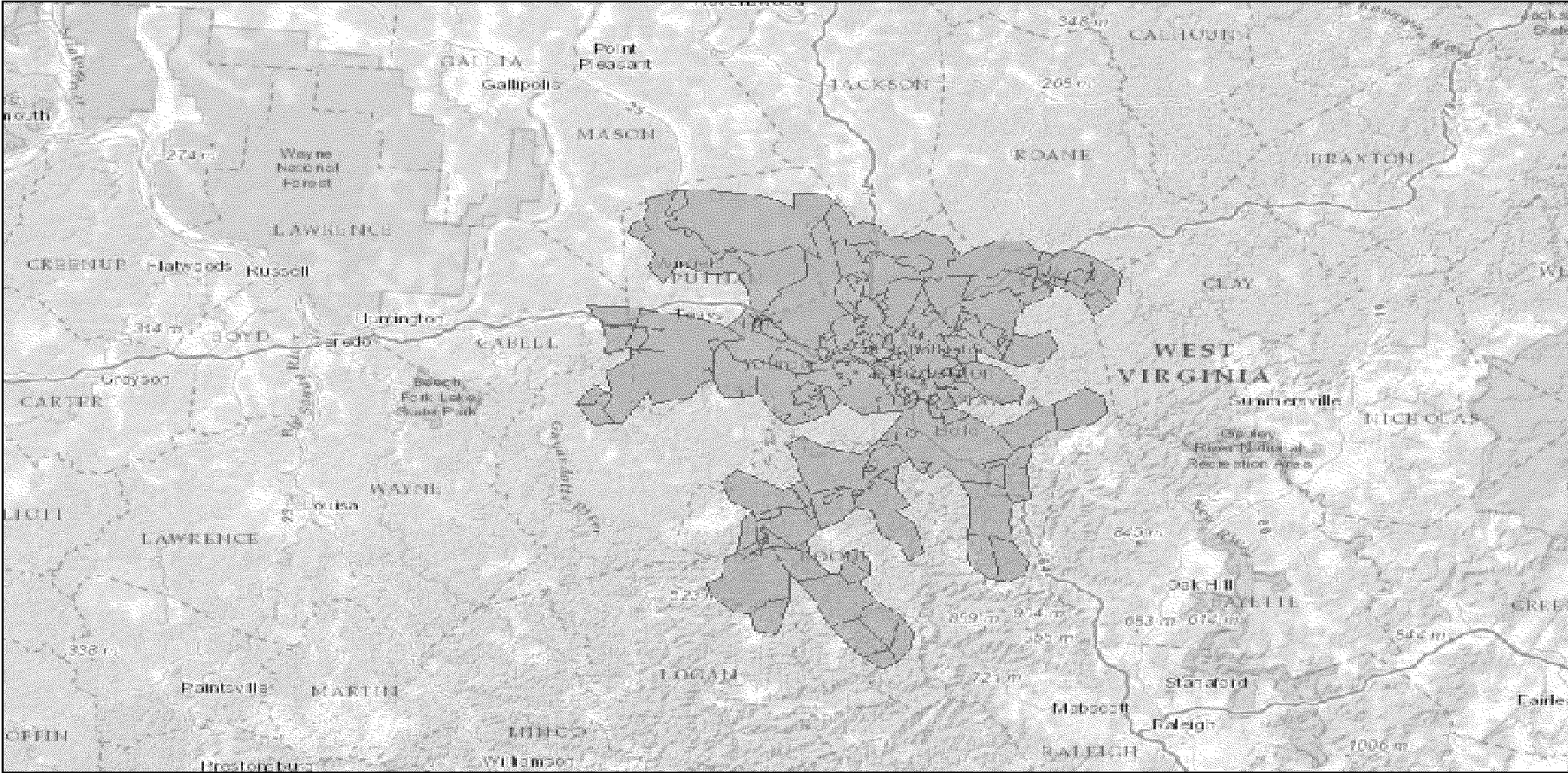
Kanawha Valley Water Safety Status Map



January 17, 2014

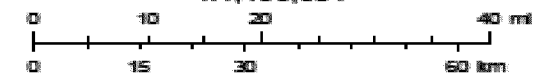


Kanawha Valley Water Safety Status Map



January 18, 2014

1:1,155,581



Sources: FBI, Defense, NAVJAG, TomTom, Internet, Incidents '97, C-4, GESCO, USSS, PAC, NPS, NRCAN, Goshute, IGW, Kadena AB.

Abstract

Agencies Involved

State Agencies:

- WVDHSEM
- WVDEP
- WVDHHR
- WVDNR
- WV National Guard
- WV VOAD
- WV Elected Officials

Federal Agencies:

- FEMA
- US EPA
- USCG
- OSHA
- CDC/ATSDR
- US CSB
- US FWS

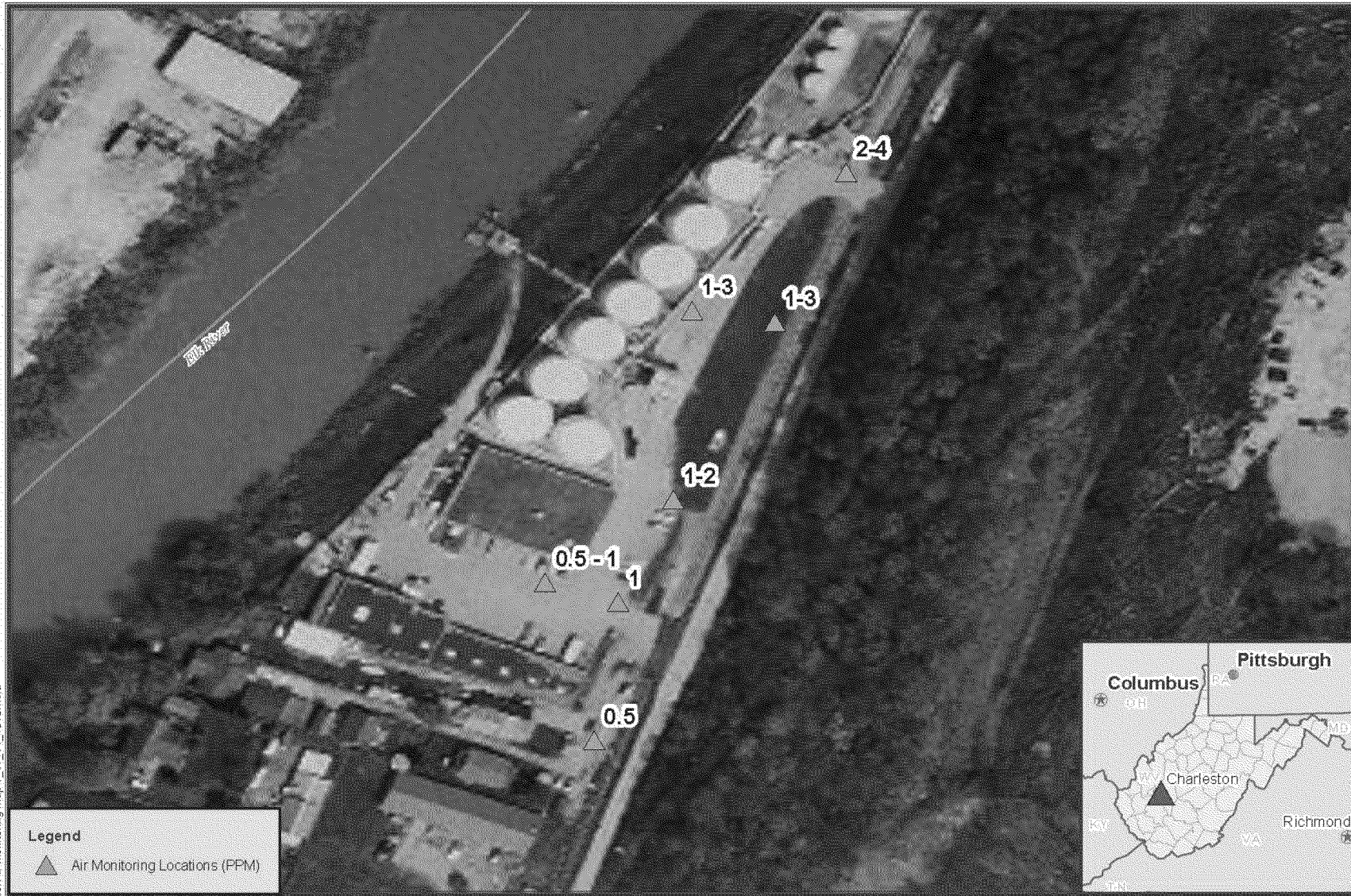
Freedom Industries – Site Specific Actions





01/10/2014 05:19 PM

File: Air Monitoring Map 1_11_14_1315.mxd



Air Monitoring Location/Data Map - 1/11/14 - 13:15 hours
Charleston, WV Chemical Leak - Etowah, West Virginia



Map By:
WFH

Date Modified:
01/11/2014

Scale: 1:1,682

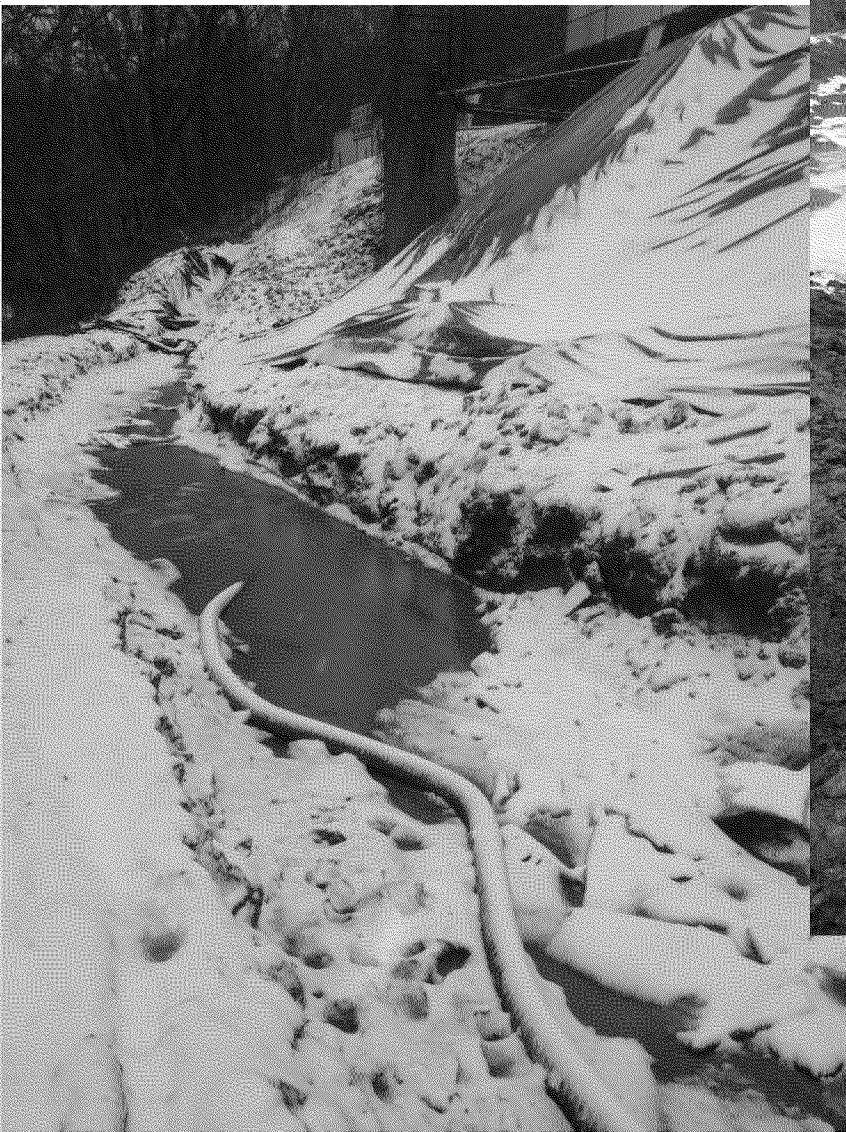


Source:
Base Layers procured from ESRI Online Services

Air Monitoring Results from field screening using
START TVA-1000 FID unit.
Results are approximate due to response factor
relationship, wind, and other potential interferences.









Crude MCHM

Primarily – 4-MCHM (68-85% concentration by weight)

SECTION 11: Toxicological information

Information on likely routes of exposure

| | |
|---------------|-------------------------------------------------------------------------------------|
| Inhalation: | At elevated temperatures, vapor may cause irritation of eyes and respiratory tract. |
| Ingestion: | Harmful if swallowed. |
| Skin contact: | Causes skin irritation. |
| Eye contact: | Causes serious eye irritation. |

11.1 Information on toxicological effects

Acute Toxicity

| | |
|-----------------|------------------------------------|
| Oral Product: | Oral LD-50: (Rat): 825 mg/kg |
| Dermal Product: | Dermal LD-50: (Rat): > 2,000 mg/kg |

9.1 Information on basic physical and chemical properties

| | |
|------------------------------------------|-----------------------------------------------------------------------------------------------|
| Appearance | |
| Physical State: | Liquid |
| Form: | Liquid |
| Color: | Colorless |
| Odor: | Alcohol |
| Odor Threshold: | No data available. |
| pH: | No data available. |
| Freezing Point: | 0 °C |
| Boiling Point: | 180 °C |
| Flash Point: | 112.8 °C (Setaflash Closed Cup) |
| Evaporation Rate: | No data available. |
| Flammability (solid, gas): | No data available. |
| Flammability Limit - Upper (%): | No data available. |
| Flammability Limit - Lower (%): | No data available. |
| Vapor pressure: | No data available. |
| Vapor density (air=1): | No data available. |
| Relative density: | < 1 (estimated) |
| Solubility(ies) | |
| Solubility in Water: | Appreciable |
| Solubility (other): | No data available. |
| Partition coefficient (n-octanol/water): | No data available. |
| Autoignition Temperature: | No data available. |
| Decomposition Temperature: | Thermal stability not tested. Low stability hazard expected at normal operating temperatures. |
| Viscosity: | No data available. |
| Explosive properties: | No data available. |
| Oxidizing properties: | No data available. |